

IN THE DRAWINGS:

Please replace the originally filed Figures 1 through 7 with the enclosed formal drawings on five pages.

IN THE CLAIMS:

Please cancel claims 1- 48 without prejudice, and substitute therefore the following claims:

49. (New) A biological sample archive system; said archive system comprising:
a sample repository comprising a plurality of samples derived from biological sources, said samples stored in substantially desiccated form on sample carrier means at known locations within said repository;
an information database comprising medical history, clinical or phenotypic information associated with said biological sources corresponding to said plurality of samples;
means for determining a request for a sample selected from said plurality of samples in said repository;
automated means for locating and recognizing said selected sample from other sample in said repository and for removing at least a portion of said sample based upon said request, and thereafter returning said sample carrier to a known location in said repository for repeating said locating and removing steps for other portions of said sample at a later time.

50. (New) The system of Claim 49 further comprising unique identifiers associated with each of said samples recognizable by said recognizing means.

51. (New) The system of Claim 49 wherein said samples in said repository are associated with optically readable identifiers.

52. (New) The system of Claim 49 further comprising means for organizing a plurality of said removed at least sample portions into an ordered assembly on a multiwell plate.

53. (New) The system of Claim 49 wherein said means for determining comprises a catalog of said samples and means for making said catalog and said associated database available to said requestor via a computer network.

54. (New) The system of Claim 49 wherein said means for removing comprises mechanical means to separate said at least portion from other sample portions in said repository having like sample composition.

55. (New) The method of Claim 49 further comprising optical recognition means for detecting the location for said removal of said at least sample portion from among other portions of like sample.

56. (New) A sample archive system comprising:

a repository capable of storing a plurality of samples derived from biological sources in substantially desiccated form at known locations, said samples being stored in separable portion format, each portion having been derived from the same biological source and having substantially identical composition and stored in close proximity in said repository;

means for identifying a sample from information associated with said sample in an information database comprising medical, clinical or phenotype information,

means for ascertaining a location of said identified sample in said repository;

means for removing at least a separable portion of said sample.

57. (New) The system of Claim 56 wherein said sample comprises a

polynucleotide.

58. (New) The system of Claim 56 wherein said sample comprises a protein.

59. (New) The system of Claim 56 further comprising means to amplify said removed at least portions of said sample prior to further analysis.

60. (New) The system of Claim 59 further comprising means for contacting said sample portion with other matter and detecting a specific binding event resulting from said contacting.

61. (New) The system of Claim 56 further comprising robotic means for forming an ordered assembly of said sample portions.

62. (New) The system of Claim 61 further comprising means to place said removed portion at a precise location and wherein said ordered assembly is a multiwell plate.

63. (New) A sample archive system comprising:
means for receiving a request for a sample, which request was determined from accessing an information database comprising medical history, clinical or phenotypic information corresponding to the source of said sample;
means for identifying a sample stored in substantially desiccated form stored in a repository;
means for locating said sample in said repository;
detection means for locating a sample portion to be removed and detachment means for removing at least a portion of said sample from other portions of said sample located proximate thereto;
means for placing said removed at least a portion of said sample in a selective location.

64. (New) The system of Claim 63 wherein said detection means comprises optical image recognition means.

65. (New) The system of Claim 63 wherein said detachment means comprises mechanical cutting means.

66. (New) The system of Claim 63 wherein said detachment means comprises laser cutting means.